IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method for forming a film on a substrate comprising:

activating a gas to deposit a material on the substrate by irradiating the gas with electromagnetic energy at a frequency tuned to an absorption frequency of the gas corresponding to a bond energy of the gas ~~including controlling the irradiation with the electromagnetic energy to activate the gas to a energy level such that, if the gas is a reactant precursor to form the material, the gas does not decompose prior to a reaction that forms the material or, if the gas is not a reactant precursor to form the material, the gas decomposes into one or more reactant molecular gas precursors that enter into a reaction with another substance that forms the material~~.

2. (Previously Presented) The method of claim 1, wherein the method further includes adjusting a source for the electromagnetic energy to provide the electromagnetic energy at a select frequency tuned to a specific absorption frequency of the gas.

3. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one laser in a laser array to an output of another laser in the laser array.

4. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one diode laser in a diode laser array to an output of another diode laser in the diode laser array.

5. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes tuning a tunable laser to the select frequency.

6. (Previously Presented) The method of claim 1, wherein the method further includes controlling a location at which the electromagnetic energy interacts with the gas.

7. (Previously Presented) The method of claim 6, wherein controlling a location at which the electromagnetic energy interacts with the gas includes rastering the electromagnetic energy across a portion of a surface of the substrate.

8. (Previously Presented) The method of claim 1, wherein activating a gas includes breaking specific bonds in the gas precursor.

9. (Previously Presented) The method of claim 1, wherein activating a gas includes decomposing the gas precursor into two of more chemical vapors.

10. (Previously Presented) The method of claim 1, wherein the method further includes controlling environmental parameters and a location at which the electromagnetic energy irradiates the gas such that activating the gas occurs at a distance from the substrate that is within a mean free path of the activated gas.

11. (Original) The method of claim 1, wherein the method is performed as a part of a chemical vapor deposition process.

12. (Original) The method of claim 1, wherein the method is performed as a part of an atomic layer deposition process.

13. (Previously Presented) A method for forming a film on a substrate comprising:

selecting an absorption frequency of a molecule of a gas corresponding to a bond energy of the molecule;

setting a select frequency for a laser source correlated to the absorption frequency; and

illuminating the gas using the laser source~~; and~~

~~controlling the illumination using the laser source to activate the gas to a energy level such that, if the gas is a reactant precursor to form a material on the substrate, the gas does not decompose prior to a reaction that forms the material or, if the gas is not a reactant precursor to~~

~~form the material, the gas decomposes into one or more reactant molecular gas precursors that enter into a reaction with another substance that forms the material.~~

14. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes selecting a laser in a laser array to provide the laser source having the select frequency.

15. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes selecting a diode laser in a diode laser array to provide the laser source having the select frequency.

16. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes tuning a tunable laser to the select frequency.

17. (Previously Presented) The method of claim 13, wherein the method further includes controlling a location at which radiation from the laser source illuminates the gas.

18. (Previously Presented) The method of claim 17, wherein controlling a location at which radiation from the laser source illuminates the gas includes rastering the laser beam across a portion of a surface of the substrate.

19. (Previously Presented) The method of claim 13, wherein the method further includes regulating environmental parameters and a location at which the laser source illuminates the gas to activate the gas reactant at a distance from the substrate that is within a mean free path of the activated gas.

20. (Currently Amended) A method for forming a film on a substrate comprising:

measuring absorption frequencies of one or more molecules of a gas flow;

selecting an absorption frequency at which to activate a gas in the gas flow, the absorption frequency corresponding to a bond energy of the one or more molecules;

triggering a laser of a laser array, the triggered laser having a frequency corresponding to the selected absorption frequency; and

exposing the gas flow to a laser beam from the triggered laser; and

controlling the laser beam to activate the gas to a energy level such that, if the gas is a reactant precursor to form a material on the substrate, the gas does not decompose prior to a reaction that forms the material or, if the gas is not a reactant precursor to form the material, the gas decomposes into one or more reactant molecular gas precursors that enter into a reaction with another substance that forms the material.

21. (Original) The method of claim 20, wherein triggering a laser of a laser array includes activating a diode laser in a diode laser array.

22. (Original) The method of claim 20, wherein triggering a laser of a laser array includes tuning a tunable laser to the select frequency.

23. (Original) The method of claim 20, wherein the method further includes controlling a location at which the gas flow is exposed to the laser beam.

24. (Previously Presented) The method of claim 23, wherein controlling a location at which the gas flow is exposed to the laser beam includes rastering the laser beam across a portion of a surface of the substrate.

25. (Previously Presented) The method of claim 20, wherein the method further includes managing environmental parameters and a location at which the laser beam from the triggered laser illuminates the gas flow to activate the gas at a distance from the substrate that is within a mean free path of the activated gas.

26. (Withdrawn – Currently Amended) A method for forming an electronic device comprising:

providing a substrate;

forming circuits on the substrate, wherein forming the circuits includes depositing a material by irradiating a gas with electromagnetic energy at a frequency tuned to an absorption frequency of the gas to activate the gas ~~precursor~~, the absorption frequency corresponding to a bond energy of the gas ~~including controlling the irradiation with the electromagnetic energy to activate the gas to a energy level such that, if the gas is a reactant precursor to form the material, the gas does not decompose prior to a reaction that forms the material or, if the gas is not a reactant precursor to form the material, the gas decomposes into one or more reactant molecular gas precursors that enter into a reaction with another substance that forms the material~~.

27. (Withdrawn, Previously Presented) The method of claim 26, wherein the method further includes adjusting a source for the electromagnetic energy to provide the electromagnetic energy at a select frequency tuned to a specific absorption frequency of the gas.

28. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one laser in a laser array to an output of another laser in the laser array.

29. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one diode laser in a diode laser array to an output of another diode laser in the diode laser array.

30. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic energy includes tuning a tunable laser to the select frequency.

31. (Withdrawn, Previously Presented) The method of claim 26, wherein the method further includes controlling a location at which the electromagnetic energy interacts with the gas.

32. (Withdrawn, Previously Presented) The method of claim 31, wherein controlling a location at which the electromagnetic energy interacts with the gas includes rastering the electromagnetic energy across a portion of a surface of the substrate.

33. (Withdrawn, Previously Presented) The method of claim 26, wherein activating a gas includes breaking specific bonds in the gas precursor.

34. (Withdrawn, Previously Presented) The method of claim 26, wherein activating a gas includes decomposing the gas precursor into two of more chemical vapors.

35. (Withdrawn, Previously Presented) The method of claim 26, wherein the method further includes managing environmental parameters and a location at which the electromagnetic energy irradiates the gas such that activating the gas occurs at a distance from the substrate that is within a mean free path of the activated gas.

36. (Withdrawn) The method of claim 26, wherein the method is performed as a part of a chemical vapor deposition process.

37. (Withdrawn) The method of claim 26, wherein the method is performed as a part of an atomic layer deposition process.

38. (Withdrawn) The method of claim 26, wherein the method further includes forming the electronic device as an integrated circuit.

39. (Withdrawn) The method of claim 26, wherein the method further includes forming the electronic device as a memory device.

40. (Withdrawn – Currently Amended) A method for forming an electronic system comprising:

providing a processor;

coupling a processor to a memory, wherein at least one of the processor or the memory are formed by a method including depositing a material by illuminating a gas with a laser beam having a frequency targeted to an absorption frequency of the gas to activate the gas, the absorption frequency corresponding to a bond energy of the gas ~~and by controlling the~~

~~illumination with the laser beam to activate the gas to a energy level such that, if the gas is a reactant precursor to form the material on a substrate, the gas does not decompose prior to a reaction that forms the material or, if the gas is not a reactant precursor to form the material, the gas decomposes into one or more reactant molecular gas precursors that enter into a reaction with another substance that forms the material~~.

41. (Withdrawn, Previously Presented) The method of claim 40, wherein the method further includes adjusting the laser beam to a select frequency tuned to a target absorption frequency of the gas.

42. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes switching the laser beam from an output of one laser in a laser array to an output of another laser in the laser array.

43. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes switching the laser beam from an output of one diode laser in a diode laser array to an output of another diode laser in the diode laser array.

44. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes tuning a tunable laser to the select frequency.

45. (Withdrawn, Previously Presented) The method of claim 40, wherein the method further includes controlling a location at which the laser beam interacts with the gas.

46. (Withdrawn, Previously Presented) The method of claim 45, wherein controlling a location at which the laser beam interacts with the gas includes rastering the laser beam across a portion of a surface of the substrate.

47. (Withdrawn, Previously Presented) The method of claim 40, wherein activating a gas includes breaking specific bonds in the gas.

48. (Withdrawn, Previously Presented) The method of claim 40, wherein activating a gas includes decomposing the gas reactant into two of more chemical vapors.

49. (Withdrawn, Previously Presented) The method of claim 40, wherein the method further includes controlling environmental parameters and a location at which the laser beam illuminates the gas such that activating the gas reactant occurs at a distance from the substrate that is within a mean free path of the activated gas precursor.

50. (Withdrawn) The method of claim 40, wherein the method is performed as a part of a chemical vapor deposition process.

51. (Withdrawn) The method of claim 40, wherein the method is performed as a part of an atomic layer deposition process.

52.-78. (Cancelled)

79. (Previously Presented) A method for forming a film on a substrate comprising:

activating a gas precursor to deposit a material on the substrate by irradiating the gas precursor with electromagnetic energy at a frequency tuned to an absorption frequency of the gas precursor, the electromagnetic energy sourced from a diode laser of a diode laser array, the diode laser array having at least one diode laser with a center frequency different from that of another diode laser of the laser array.

80. (Previously Presented) The method of claim 79, wherein the method includes limiting the activation of the gas precursor to within a mean free path of the gas precursor from the substrate.

81. (Previously Presented) The method of claim 79, wherein the method includes limiting the activation of the gas precursor to above the substrate and within ten mean free paths of the gas precursor from the substrate.

82. (Previously Presented) The method of claim 79, wherein the method includes activating a second gas precursor with electromagnetic energy having a second center frequency tuned to an absorption frequency of the second gas precursor, the electromagnetic energy having a second center frequency sourced from a second diode laser of the diode laser array.

83. (Previously Presented) The method of claim 82, wherein activating the gas precursor and activating the second gas precursor are performed in a common stage of processing.

84. (Previously Presented) The method of claim 82, wherein activating the gas precursor and activating the second gas precursor are performed in different stages of processing.

85. (Previously Presented) The method of claim 79, wherein the method includes controlling an amount of energy to activate the gas.

86. (Previously Presented) The method of claim 79, wherein the method includes physically measuring the absorption frequency of the gas precursor before activating the gas precursor.

87. (Previously Presented) The method of claim 79, wherein the method includes forming the material in an integrated circuit on the substrate.

88. (Previously Presented) The method of claim 79, wherein the method includes forming the material in a transistor on the substrate.

89. (Previously Presented) The method of claim 79, wherein the method includes forming the material in a memory on the substrate.

90. (Previously Presented) The method of claim 79, wherein the method includes forming the material in an integrated circuit on the substrate and coupling the integrated circuit to a controller.

91. (Previously Presented) The method of claim 79, wherein coupling the integrated circuit to a controller includes coupling the integrated circuit to a processor.